

## WHAT IS CLAIMED IS:

- 1           1.     A rotatable control rod mechanism, comprising:
  - 2                   (a) a rod having a spiral thread configuration;
  - 3                   (b) a spiral thread follower mounted on the rod for following the spiral thread
  - 4                   configuration and thereby causing relative rotation between the rod and the spiral thread
  - 5                   follower;
  - 6                   (c ) a handle mounted over the spiral thread follower for rotation about the
  - 7                   spiral thread follower; and
  - 8                   (d) the spiral thread follower further comprising a section which is exposed
  - 9                   relative to the handle.
- 1           2.     A rotatable control rod mechanism, comprising:
  - 2                   ( a) a rotatable load;
  - 3                   ( b) a rod having a spiral thread configuration along the surface thereof;
  - 4                   ( c) means connecting the rod to the load for rotating the load and rod together;
  - 5                   ( d) a spiral thread follower having a collar, the follower mounted on the rod for
  - 6                   rotating along the rod following the spiral thread configuration; and
  - 7                   ( e) a handle mounted over the spiral thread follower and exposing the collar thereof,
  - 8                   the handle being adapted for rotating about the spiral thread follower,

( f) whereby (1) engaging the collar to prevent rotation of the spiral thread follower and translating the spiral thread follower along the rod in a first or a second, opposite direction of translation moves the rod in, respectively, a first or a second, opposite direction of rotation, and (2) engaging the handle to prevent rotation thereof while permitting rotation of the collar and the spiral thread follower around the rod and translating the handle along the rod in the first or second direction of translation moves the handle and spiral thread follower along the rod in, respectively, the first or second direction of translation.

3. A plural stroke control rod mechanism, comprising:

( a) a rotatable shaft;

( b) a rod having spiral convolutions;

( c) means connecting the rod to the shaft for rotating the shaft and rod together; and

(d) a handle device, comprising:

(1) a stepped cylinder comprising a first upper section or collar and a second lower section or tube having a bottom end; the outer diameter of the collar being of large dimension relative to the outer diameter of the tube; and the stepped cylinder having a longitudinal axis and having an internal axially-extending bore mounting the stepped cylinder along the rod for rotation along the spiral convolutions of the rod;

(2) a handle comprising a member having upper and lower ends, a longitudinal axis and an axial bore therein extending to the upper and lower ends

thereof, the member rotatably mounting the tube of the stepped cylinder therein with the relatively large diameter collar protruding from and rotatably seated along the upper end of the member;

(3) the stepped cylinder being of sufficient length such that the bottom end thereof protrudes from the bottom end of the bore of the member; and

(4) means securing the lower end of the stepped cylinder to the member such that the stepped cylinder is rotatably captured to the member between the collar member and the securing means; and whereby

( e) engaging the collar to prevent rotation thereof while moving the handle device along the rod in a first or a second, opposite direction of translation rotates the rod and the connected shaft in a first or a second, opposite direction of rotation, respectively; and

( f) moving the handle device along the rod in the first or second direction of translation without engaging the collar to prevent movement of the collar shifts the position of the handle device in the first or second direction of rotation, respectively, without rotating the rod or the shaft.

4. A method for reversibly and repeatedly rotating a rod having a spiral thread configuration, a thread follower mounted on the rod and a handle rotatably mounted over the spiral thread follower exposing a section of the spiral thread follower, the method comprising: first, engaging the exposed section to prevent rotation of the section and the spiral thread follower and translating the spiral thread follower along the rod in a first or a second direction of translation and thereby rotating the rod in a first or a second direction of rotation, respectively; and, second, engaging the handle to prevent rotation thereof while allowing rotation of the section and the spiral thread follower around the rod and translating the handle and the spiral thread follower along the rod in a first or a second direction of

10 translation, thereby positioning the handle and the spiral thread follower for another first  
11 step.

1 5. A method for reversibly and repeatedly rotating a rotatable load, comprising:

2 ( a) connecting to the load a rod having spiral convolutions;

3 ( b) mounting on the rod a spiral thread follower having a collar and a handle  
4 rotatably mounted along the spiral thread follower exposing the collar;

5 ( c) selectively engaging the collar to prevent rotation thereof and sliding the  
6 handle along the rod in a first direction of translation or a second, opposite direction of  
7 translation, thereby rotating the rod in a first direction of rotation or a second, opposite  
8 direction of rotation; and

9 (d) selectively sliding the handle along the rod in the first or second direction  
10 of translation without engaging the collar sufficiently to prevent rotation thereof, thereby  
11 repositioning the handle along the rod in the first or second direction of translation without  
12 rotating the rod.